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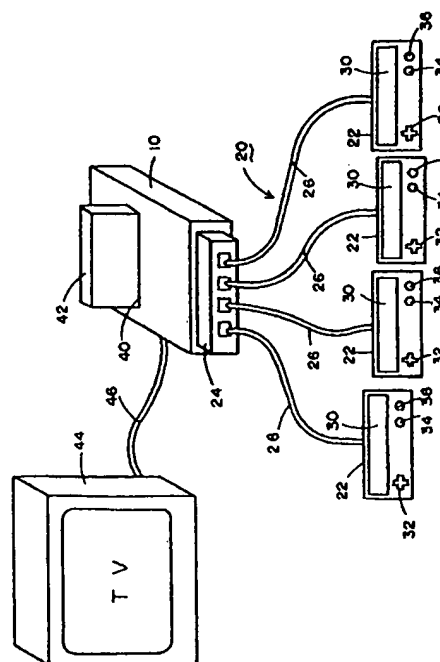
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(54) 【発明の名称】 ゲーム機用の携帯型操作装置

(57) 【要約】

【目的】 操作者に関する情報を他者に秘匿して表示することが可能な、または、ゲーム機と多量のデータを送受信することが可能なゲーム機用の携帯型操作装置を提供する。

【構成】 LCD 30を備えた操作部 22を信号線 26を介して接続部 24に接続する。接続部 24は、ゲーム専用機 10のバスコネクタに接続する。操作者は、TV 受像機 44の画面とLCD 30の画面とを見ながら、十字型レバー 32と入力ボタン 34、36とを用いて操作指令を入力してゲームを行なう。



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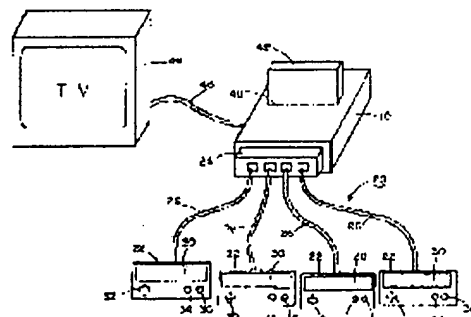
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## (54) PORTABLE MANIPULATOR FOR GAME MACHINE

### (57)Abstract:

PURPOSE: To provide a portable manipulator for game machine which can secretly display information concerning an operator keeping it out of sight of the other person or can exchange a large amt. of data with a game machine.

CONSTITUTION: A manipulation part 22 provided with an LCD 30 is connected through a signal line 26 to a connection part 24. The connection part 24 is connected to the bus connector of a machine 10 dedicated to a game. While observing the picture of a TV receiver 44 and the picture of the LCD 30, the operator plays the game by inputting a manipulating command using a cross lever 32 and input buttons 34 and 36.



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3. In the drawings, any words are not translated.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to an operating set carrying type [ for operating a game machine ].

[0002]

[Description of the Prior Art] There is a carried type operating set connected to a game machine through a signal line as equipment for operating a game machine conventionally. The state of a game is displayed on screens which were established in the main part of a game machine, or were connected to the main part of a game machine, such as CRT (Cathode Ray Tube) and TV (television) receiving set. Looking at the displayed screen, a user inputs operator command from the above-mentioned operating set, and performs a game.

[0003] Moreover, two or more operating sets may be connected to one game machine. When a different user operates two or more operating sets, respectively, a game to which two or more participants are pitched mutually against each other can be enjoyed.

[0004]

[Problem(s) to be Solved by the Invention] By the way, there are some pitched-against each other type games which keeps secret the tile and tag which oneself holds from a waging-war person, and perform them like mah-jongg or cards. However, since the same information was uniformly displayed to all participants in a game in the conventional game machine, it was difficult to perform such a game.

[0005] Moreover, generally, between the control unit and the game machine, since a lot of data were not able to be exchanged at once, it was difficult [ it ] to restrain the amount of the information which can be inputted from a control unit, and to perform the game accompanied by complicated operation.

[0006] this invention is made in order to solve such a trouble, and it aims at offering the carried type operating set for game machines which can transmit and receive a lot of data between game machines possible [ operating a game machine ], keeping the game information about oneself secret from the others.

[0007]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, invention according to claim 1 is an operating set carrying type [ for operating a game machine ], and contains the control unit equipped with the means of communications for communicating with the control means prepared in the aforementioned game machine, the input means for inputting operator command into the aforementioned control means

through the aforementioned means of communications, and the display means for displaying information based on the output from the aforementioned control means.

[0008] Invention according to claim 2 contains the connecting means for the aforementioned means of communications connecting a signal line and the aforementioned signal line to the aforementioned game machine.

[0009] Invention according to claim 3 is characterized by the aforementioned connecting means being what establishes a connection state with the bus connected to the aforementioned control means.

[0010] Invention according to claim 4 is an operating set carrying type [ for operating a game machine ], and it carries out that the connecting means for the aforementioned means of communications establishing the connection state of a signal line and the bus connected to the aforementioned signal line and the aforementioned control means including the control unit equipped with the input means for inputting operator command into the aforementioned control means through the means of communications and the aforementioned means of communications for communicating with the control means prepared in the aforementioned game machine are included as the feature.

[0011] It is characterized by the ability of the aforementioned connecting means to detach and attach invention according to claim 5 freely to the aforementioned game machine.

[0012] Invention according to claim 6 is characterized by the ability of the aforementioned connecting means to connect to the aforementioned game machine two or more aforementioned signal lines which correspond to two or more aforementioned control units, respectively.

[0013]

[Function] The operator command inputted by composition according to claim 1 from the input means with which the control unit was equipped is inputted into the control means prepared in the game machine through means of communications. Based on the output from control means, information is displayed on the display means of a control unit. A game machine is operated using this input means and a display means.

[0014] It communicates with the control means by which the input means and display means of a control unit were prepared in the game machine by connecting means through the signal line connected to the game machine by composition according to claim 2.

[0015] The connection state of the bus and signal line which were connected to control means by composition according to claim 3 is established by connecting means.

[0016] After the operator command inputted by composition according to claim 4 from the input means with which the control unit was equipped is transmitted by the signal line, it is inputted into a bus through connecting means, and is inputted into control means through a bus.

[0017] By composition according to claim 5, make a game machine equip with connecting means, connect a control unit and control means, connecting means are made to secede from a game machine, and a control unit is separated from control means.

[0018] Two or more signal lines which correspond to two or more control units by composition according to claim 6, respectively are connected to a game machine by connecting means.

[0019]

[Example] Hereafter, one example of the carried type operating set for game machines concerning this invention (only henceforth a "operating set") is explained with reference

to a drawing. Drawing 1 is the external view showing the state where the operating set 20 was connected to the game special-purpose machinery (henceforth a "main part") 10 which is a main part. An operating set 20 consists of signal lines 26 which connect a control unit 22, a connection 24, and a control unit 22 and a connection 24.

[0020] A control unit 22 is a portion into which a user has in a hand and inputs the operator command of a game. A control unit 22 has LCD (Liquid Crystal Display)30 for displaying a screen, the cross lever 32 for moving the cursor on a screen, and two input buttons 34 and 36. The operating set 20 of this example contains four control units 22.

[0021] It connects with the bus connector of a main part 10, and a connection 24 controls the I/O between a main part 10 and an operating set 20. The ROM (Read Only Memory) cartridge connector 40 of a main part 10 is loaded with ROM cartridge 42 which stored the game program. Furthermore, the TV receiving set (only henceforth "TV") 44 is connected to the main part 10 through the signal line 46 as display.

[0022] Drawing 2 is the block diagram showing the internal configuration of an operating set 20 and a main part 10. The interior of a main part 10 is equipped with CPU (Central Processing Unit)50 for performing a game. A game is performed this CPU50 reading a game program from ROM52 in ROM cartridge 42, and controlling a main part 10 and an operating set 20.

[0023] RAM (Random Access memory)54 for developing a program and data as work memory of CPU50 and VRAM56 for memorizing the image data displayed on a screen are further formed in the main part 10. ROM52, and RAM54 and VRAM56 are respectively connected to CPU50 through an address bus AB, bus read-out / R/W for writing, and the data bus DB. The image data memorized by VRAM56 is displayed on the screen of TV44 by the display controller 58.

[0024] The switch mechanism 62 by which ON/OFF is switched to the control unit 22 of an operating set 20 with the LCD driver 60, and the cross lever 32 and the input buttons 34 and 36 for driving LCD30 mentioned already and this LCD30 is formed. The clock generation circuit 66 for inputting a synchronizing signal into two or more connection control units 64 corresponding to each and connection control units 64 of a control unit 22 is established in the connection 24. The connection control unit 64 is connected to CPU50 of a main part 10 through an address bus AB, bus read-out / R/W for writing, and the data bus DB.

[0025] Drawing 3 is the block diagram showing the detailed composition of the switch mechanism 62 in a control unit 22, and the connection control unit 64 in a connection 24. There are the switches 71-74 movement of the four directions of the cross lever 32 switches on, and the switches 75 and 76 the input of the input buttons 34 and 36 switches on as switch included in a switch mechanism 62. The switch signal inputted from these six switches 71-76 is serially changed through the parallel/serial-conversion circuit 78, and is sent to the connection control unit 64 of a connection 24 through the signal line 80 for input data contained in a signal line 26.

[0026] The LCD module 82 which generates the data for the connection control unit 64 controlling the image data and LCD30 which are displayed on LCD30 based on the output from CPU50, The serial/parallel-conversion equipment 84 for changing into serial shell parallel the switch signal sent from a control unit 22 through the signal line 80 for input data, A switch signal is received through serial/parallel-conversion equipment 84, and the input/output control unit 86 for outputting as a signal which can read CPU50 (

drawing 2 ) is included.

[0027] The I/O (Input/Output) address is assigned to the LCD module 82 and the input/output control unit 86 by decoders 88 and 90, respectively. By this I/O Address, CPU50 can distinguish two or more LCD modules 82 and input/output control units 86 corresponding to each of a control unit 22. For example, if data are sent to the I/O Address assigned to one of two or more LCD modules 82, data will be displayed on LCD30 of the control unit 22 corresponding to the LCD module 82. Moreover, if the data of an I/O Address assigned to the input/output control unit 86 are read, the input state by the cross lever 32 and the input buttons 34 and 36 of a control unit 22 corresponding to the input/output control unit 86 can be investigated.

[0028] Drawing 4 is the block diagram showing the composition of the LCD module 82. The LCD module 82 contains the address counter 98 for setting up the address of the data stored in indicative-data RAM96 and indicative-data RAM96 for storing the image data displayed on LCD30 of a control unit 22 as the input output buffer 92 for memorizing the data sent from CPU50, and the instruction decoder 94 for analyzing data and performing various kinds of control in the LCD module 82.

[0029] Furthermore, the character generator ROM 100 in which the LCD module 82 stores beforehand the dot data of the high character of operating frequency, or a figure The character generator RAM 102 for generating the dot data of a character or a figure which are not stored in the character generator ROM 100 The cursor control circuit 104 for moving the cursor displayed on the screen of LCD30 according to the input of each switches 71-74 (refer to drawing 3 ) of the cross lever 32, or carrying out display and elimination, The data-conversion circuit 106 for changing the output data from indicative-data RAM96 and the cursor control circuit 104 into the dot data corresponding to LCD30 and the timing circuit 108 for taking the timing of data output are included.

[0030] The processing which clears the display screen of LCD30 according to the data into which the instruction decoder 94 was inputted, The processing which displays or eliminates cursor on the screen of LCD30, and the processing which sets the address of each dot data in a character generator RAM 102, The processing which sets cursor to a home position, and reading / write-in processing of the dot data of a character generator RAM 102, Processing which controls the output of the data from the data-conversion circuit 106 to a control unit 22, storing processing of the code data to the LCD address table in indicative-data RAM96 (after-mentioned), etc. are performed.

[0031] Drawing 5 is the \*\* type view showing the composition of the LCD address table stored in indicative-data RAM96. The case where LCD30 has the viewing area of 16 figure x4 line as an example is shown. A LCD address table has the address corresponding to each of the field for one character on LCD30. Code data are set to each address.

[0032] If the data of a LCD address table are outputted to the data-conversion circuit 106 from indicative-data RAM96, the data-conversion circuit 106 will read the dot data corresponding to the code data of each address in a character generator ROM 100 or a character generator RAM 102, and will change them into an image data. If code data correspond to the high character and high figure of operating frequency at this time, the dot data which a character generator ROM 100 is referred to and correspond will be read. On the other hand, if code data are equivalent to the data of the low character of operating frequency, or a figure, dot data will be set to a character generator RAM 102 each time,

and the generated dot data will be used.

[0033] The dot data outputted from the data-conversion circuit 106 are sent to a control unit 22 through the signal line 81 for image data contained in a signal line 26 ( drawing 1 , two references), and are displayed on LCD30 by the LCD driver 60.

[0034] In addition, as for operation with indicative-data RAM96, the cursor control circuit 104, and the data-conversion circuit 106, a synchronization is taken by the timing pulse from a timing circuit 108. A timing circuit 108 answers an input from the clock generation circuit 66 (refer to drawing 2 ) established in the exterior of the LCD module 82, and outputs a timing pulse.

[0035] Drawing 6 is a flow chart which shows the operations sequence of the LCD module 82. The data outputted from CPU50 are incorporated to an input output buffer 92 (Step 11 (only henceforth "S")). The instruction decoder 94 analyzes the data in an input output buffer 92 (S12), and the kind of command (instruction) contained in data is distinguished (S12). If it is things other than what a command orders to perform the display of image data (it is NO at S13), processing which the command orders will be performed (S14). On the other hand, if a command orders the display of image data (it is YES at S13), it will progress to S15 and display processing of image data will be performed.

[0036] In case image data is displayed, the address on LCD30 of the inputted image data is calculated first (S15), and code data are stored in a LCD address table (refer to drawing 6 ) (S16). If the data of a LCD address table are outputted to the data-conversion circuit 106, the data-conversion circuit 106 will distinguish the code data of each address, and it will judge whether it is data with which the data stored in the character generator ROM 100 were generated by the character generator RAM 102 (S17).

[0037] If code data are code data of what shows the data stored in the character generator ROM 100, i.e., a character with high operating frequency, and a figure (it is YES at S17), the address in which the dot data corresponding to the code data are stored will be searched for (S18), and it will read from a character generator ROM 100 (S19).

[0038] If it is code data of the low character of operating frequency, or a figure when the data with which the code data stored in the LCD address table were generated by the character generator RAM 102 on the other hand are shown namely, (it is YES at S17), the storing address in the character generator RAM 102 of the dot data will be searched for (S20), and it will read from a character generator RAM 102 (S21).

[0039] The data-conversion circuit 106 sends the changed dot data to a control unit 22 through the signal line 81 for image data, and displays them on LCD30 through the LCD driver 60 (S22). The LCD module 82 will end processing, if processing of all indicative datas is repeatedly completed for every data into which processing of the above S17-S22 was inputted (it is YES at S23).

[0040] Another example of this invention is explained below. Drawing 7 (a) is the external view showing the state where the operating set 220 was connected to the game special-purpose machinery 210 without a bus connector. There are some which do not have a bus connector depending on a game special-purpose machinery. In this case, a connection 224 is connected to a ROM-cartridge connector (it omits in drawing 25 ). And the connector 240 for loading a connection 224 with ROM cartridge 42 is formed. Other composition is the same as that of above-mentioned drawing 1 .

[0041] Drawing 7 (b) is the external view showing the state of connecting an operating



set 320, when using a personal computer 310 as a main part of a game machine. In the example, the connection 324 was used as the board which can be inserted in the extended I/O (Input/Output) port of a personal computer 310. Other composition is the same as that of above-mentioned drawing 1.

[0042] The procedure when performing a game using the operating set 20 and main part 10 by the composition mentioned above is explained. Drawing 8 is drawing showing an example of the screen displayed during execution of a mah-jongg game. Drawing 8 (a) is an example of a display in the screen (henceforth "TV screen") of TV44 shown in above-mentioned drawing 1 and drawing 2, and drawing 8 (b) is an example of a display in the screen (henceforth a "LCD screen") of LCD30 of a control unit 22. Although the information which shows the state of a game is displayed at any time while a game is going on, the information displayed like all participants in a game like information of a "place", for example is displayed on TV screen linked to the main part 10 as usual, as shown in drawing 8 (a). And the information on the tile which oneself holds if it is information, for example, a mah-jongg game, to keep it secret from other players etc. is displayed on the LCD screen of a control unit 22 which each player operates.

[0043] Looking at the information on the LCD screen shown in the information and drawing 8 (b) of TV screen shown in drawing 8 (a), each player operates the cross lever 32 and the input buttons 34 and 36, and performs a game. For example, when a discarded tile is chosen from the tiles which oneself which was displayed on the LCD screen holds, the cross lever 30 is leaned to right and left, it moves to the position of a request of cursor 120 and a discarded tile is determined, the input button 34 in which "YES" is shown is pushed, and discarded tile processing is directed.

[0044] Drawing 9 is a flow chart which shows the procedure of a mah-jongg game. Introduction and CPU50 shuffle a tile (S31). CPU50 sends \*\*\*\* information to the control unit 22 of each player, and displays \*\*\*\* on a LCD screen (S32). the operator command which each player inputted -- answering -- CPU50 -- the control unit 22 from a main part 10 -- one by one -- TSUMO -- a tile -- information -- sending -- a LCD screen - - TSUMO -- an additional indication of the picture of a tile is given (S33)

[0045] It is checked into the state where a tile can be gone up to whenever [ TSUMO \*\* ] for a player (S34). If it is not in the state which can go up (it is NO at S34), a player will continue a game as it is. A player inputs the instructions which show that a "can" is told if needed from a control unit 22 (it is YES at S35), returns to S33, and gives an additional indication of the tile at LCD30.

[0046] Next, a player confirms whether to be \*\* which is not until now (S36), and if there is no \*\*\*\* which is not (it is NO at S36), it will decide whether to carry out "reach" (S37). If a player inputs instructions of "reach" from a control unit 22 (it is YES at S37), a reach rod will be displayed on TV screen (S38). \*\*\*\*\* (it is YES at S36) and the player which are not until now omit processing of reach, and progress to a degree.

[0047] Next, a player operates the cross lever 32 and the input buttons 34 and 36, and chooses a discarded tile. The selected discarded tile is displayed on TV screen (S39). If it confirms whether CPU50 inputted the instructions other players indicate "Ron" to be to the discarded tile of a one player (S40) and instructions of "Ron" are not inputted (it is NO at S40), the office confirms whether to be a \*\* office (S41). If CPU50 will continue, other players will confirm [ of "methamphetamine", a "can", and "tsi" ] whether one of instructions was inputted, if it is not \*\*\*\* (it is NO at S41) (S42), and one of instructions

is inputted (it is YES at S42), it will return to S39 and the discarded tile will be displayed on TV screen. If other players have inputted neither of "methamphetamine", a "can", and "tsi" of the instructions (it is NO at S42), CPU50 processes the player of the following turn.

[0048] It will be in the state where a TSUMO \*\*\*\* player can go up a tile by S34 (it is YES at S34). The case (it is YES at S45) where the player inputs the instructions which show "Ron (TSUMO riser)", Or when it is in the state where the instructions other players indicate "Ron" to be to a discarded tile by S40 are inputted (it is YES at S40), and the player can be gone up, YES) is displayed, and CPU50 displays \*\*\*\* of a riser on TV screen in (S46 (S47). If one office finishes, CPU50 will judge whether the office is an end (S48), if it is not an end (it is NO at S48), will return to S31 and will start the next office. If it is an end (it is YES at S48), CPU50 will end a game.

[0049] Drawing 10 is drawing showing an example of the screen displayed during execution of the Baba omission game of cards. Like above-mentioned drawing 8, (a) is an example of a display in TV screen, and (b) is an example of a display in a LCD screen. As shown in drawing 10 (a), in a Baba omission game, the cursor 122 which moves according to operation of the cross lever 32 of the player which lengthens a card is displayed on TV screen. A player moves cursor 122 to the position of the card which it is going to lengthen, and inputs the instructions which show that the input button 34 is pushed and a card is lengthened.

[0050] Drawing 11 is a flow chart which shows the procedure of a Baba omission game. First, CPU50 shuffles a card (S61). Next, CPU50 displays the hand of each player on the back sense on TV screen (S62), and displays the hand distributed to the LCD screen on public (S63). Inputting instructions from a control unit 22, a player samples the hand of other players in predetermined sequence, and advances a game. As for a certain between, in CPU50, cards other than "Baba" still perform NO) and the following processings in (S64. An appropriate person will be made to lengthen a card, if it confirms whether CPU50 still has the hand of the player (henceforth an "appropriate person") which hits the turn which lengthens a card (S65) and there is a hand of an appropriate person (it is YES at S65). An appropriate person inputs the instructions which choose a card out of the hand of the player of the partner who lengthens the card displayed on TV screen (S66). CPU50 deletes the picture of the selected card from on TV screen (S67), and deletes the picture of the card simultaneously pulled from the LCD screen of the control unit 22 of the player pulled in the card (S68).

[0051] Next, it is confirmed whether CPU50 has the card of the same value as the card which the appropriate person lengthened in the hand of an appropriate person (S69). If there is a card of the same value (it is YES at S69), CPU50 will delete the card in the hand of the same value as the lengthened card from the LCD screen of an appropriate person (S70). Simultaneously, CPU50 deletes the card of the value same out of the hand of the appropriate person displayed on TV screen as the lengthened card (S71).

[0052] On the other hand, if there is no card of the same value as the card lengthened in S69 into the hand of an appropriate person (it is NO at S69), the card lengthened in the hand of an appropriate person will be added (S72). Simultaneously, CPU50 displays the card lengthened in the hand of the appropriate person displayed on the common screen on the back sense, and puts it in order (S73).

[0053] If the case (it is NO at S65) where there is no hand of an appropriate person S65,

and processing of S71 or S73 are completed, CPU50 will move the right which lengthens a card to the following player (S75), and will repeat processing of the above S64-S73.

[0054] If it goes up from that all whose hands were lost one by one and all the cards except "Baba" are lost (it is YES at S64), CPU50 will display a loser on a common screen (S76). CPU50 returns to NO) and S61 in (S77, when the instructions which continue a game are inputted, and when that is not right, it ends YES) and a game in (S77.

[0055] Drawing 12 is drawing showing an example of the screen displayed during execution of the poker game of cards. Like above-mentioned drawing 8, (a) is the example of a display of TV screen, and (b) is the example of a display of a LCD screen. As shown in drawing 12 (a), in a poker game, "a pot (place)" is displayed in the center of a common screen, and the card of each player is displayed on the circumference of the pot. If a player pays a chip, the picture of a chip will be displayed into a pot.

[0056] Drawing 13 and drawing 14 are flow charts which show the procedure of a poker game. Introduction and CPU50 clear a score (S81), next CPU50 shuffles a card (S82). A player inputs the instructions which pay the chip of an entry fee from each control unit 22. CPU50 displays the chip of the entry fee of each player on TV screen (S83). Then, CPU50 displays a card on the LCD screen of each player (S84).

[0057] When other players have already carried out "the bed (open)" of the player (henceforth an "appropriate person") around which the turn to declare has turned, it inputs the instructions for [ of "a call", "REIZU", and "drops" ] declaring either from a control unit 22 to YES) and its "bed" in (S85. When the instructions which declare "a call" are inputted (it is YES at S87), an appropriate person inputs the instructions of a "call" which pay the chip of a sake from a control unit 22 (S88). CPU50 displays the picture of the chip which the appropriate person paid on the pot of TV screen (S89).

[0058] When the instructions which declare "REIZU" are inputted (it is YES at S90), an appropriate person inputs the instructions of the "lathe" which pay the chip of a sake from a control unit 22 (S91). CPU50 displays the picture of the chip which the appropriate person paid on the pot of TV screen (S92).

[0059] When the instructions which declare "drops" are inputted (it is NO at S90), CPU50 deletes a card from the LCD screen of an appropriate person (S93).

[0060] If nobody has still done "the bed (open)" in S85 (it is NO at S85), the instructions which show whether the "bed" of the appropriate person is carried out or a "path" is carried out are inputted from a control unit 22 (S94). When the instructions which carry out a "bed" are inputted (it is YES at S94), an appropriate person inputs the instructions of a "bed" which pay the chip of a sake from a control unit 22 (S95). CPU50 displays the picture of the chip which the appropriate person paid on the pot of TV screen (S96).

[0061] If processing of the above S85-S96 finishes CPU50 about an appropriate person, the right declared to the following player will be moved (S97). If CPU50 repeats processing of the above S85-S97 and a round is taken of all players until it takes a round of all players (it is NO at S98) (it is YES at S98), it will confirm whether all the members inputted the instructions "which pass" (S99). When all the members of a player "pass" (it is YES at S99), CPU50 ends the game and returns to S82. CPU50 progresses to S100, when either of the players "has not passed" (it is NO at S99).

[0062] In S100, CPU50 confirms \*\*\*\*\* immediately after completing the first half of the game (bed of the 1st time). If it is immediately after completing the first half of the game (it is YES at S100), the instructions which show whether a "draw" is performed to

an active player will be made to input from a control unit 22 (S101). An active player inputs the number of sheets of the card which carries out a "draw" from a control unit 22 continuously, when the instructions which perform a "draw" are inputted (it is YES at S101) (S102). CPU50 displays the picture of the card again distributed to the LCD screen of a player which inputted the number of sheets of a draw card by the draw (S103).

CPU50 omits the above S102 and S103, when the instructions which show that an active player does not perform a "draw" are inputted (it is NO at S101). Then, CPU50 moves the right which carries out a "draw" to the following player (S104).

[0063] CPU50 processes the above S101-S104 about all active players. If a "draw" takes a round of all active players (it is YES at S105), CPU50 will return to S85 and will hold second half of the game (end of the 2nd time).

[0064] CPU50 repeats processing of the above S85-S98 about each player again as second half of the game. In addition, since all the members "do not pass" about second half of the game, CPU50 omits processing of the above S99.

[0065] If second half of the game is completed (it is NO at S100), it will be confirmed whether two or more active players are in CPU50 at the time (S110). If two or more active players are in CPU50 (it is YES at S110), the card of the player will be displayed on TV screen (S111). (show down) And CPU50 judges superiority or inferiority according to the content of each card of an active player (S112). CPU50 makes NO) and its player a victor in (S110, when the number of active players is one. If a victor determines, CPU50 will delete a chip from the pot of TV screen, and will send the information on a chip to the control unit 22 of a victor's player (S113).

[0066] When the instructions which continue a game are inputted (it is YES at S114), CPU50 returns to S82, starts the following game, and when that is not right, it ends NO) and processing in (S114).

[0067] drawing 15 -- the turnip of cards -- it is an example of the screen displayed during execution of a game Like above-mentioned drawing 8, (a) is the example of a display of TV screen, and (b) is the example of a display of a LCD screen. As shown in drawing 15 (a), the picture of a place tag and a chip is displayed on TV screen. As shown in the LCD screen of a player which became parents at drawing 15 (b), parents' hand is displayed on public.

[0068] drawing 16 and 17 -- a turnip -- it is the flow chart which shows the procedure of a game Introduction and CPU50 shuffle a card (S121). Next, CPU50 clears the display with TV screen and a LCD screen (S122). A player determines parents (S123). Then, CPU50 displays a place tag on TV screen public (S124), and displays parents' hand on the LCD screen of a player which became parents public (S125). Each player inputs instructions from a control unit 22, and chooses the card which oneself bets from the cards of the place currently displayed on TV screen (S126).

[0069] If the card which all players bet is determined (it is YES at S127), parents' player will input the instructions which distribute the following card from a control unit 22. According to these instructions, CPU50 displays the following card on the back sense one by one on the card of the place of TV screen (S128). It judges whether the 2nd card is required for each player (S129), and if the 2nd card is required (it is YES at S129), the instructions which require the 2nd card from a control unit 22 will be inputted (S130). CPU50 displays the 2nd card that the 2nd card is required on the card of the place of TV screen public (S131). CPU50 will progress to a degree, if it moves to NO) and the

following card in (S132 (S133), the above S128-S131 is processed and processing is completed about all the cards of a place, when the above S128-S131 is processed (S132) and the unsettled card remains about one card (it is YES at S132).

[0070] CPU50 will display a card on the LCD screen of parents' player an one-sheet public, if it finishes distributing all of the 2nd card demanded from the player (it is YES at S132) (S135). It judges whether the 2nd card is required for parents' player (S136), and if required (it is YES at S136), the instructions which require the 2nd card from a control unit 22 will be inputted (S137). Answering this, CPU50 displays the 2nd card on the LCD screen of parents' player public (S138). When parents' player does not require the 2nd card, NO) and the above S137 and S138 are omitted in (S136).

[0071] Next, CPU50 displays parents' card on TV screen public (S140). Then, CPU50 displays all the cards distributed to the place on TV screen on public (S141). CPU50 judges victory or defeat one by one by deck-of-cards doubling (S142), calculates the score of each player, and displays it on TV screen (S143).

[0072] When the instructions which continue a game are inputted, 50 return to YES) and CPUS121 in (S144, the following game is started, and when that is not right, NO) and a game are ended in (S144).

[0073] Drawing 18 is drawing showing an example of the screen displayed during execution of a flower card game. Like above-mentioned drawing 8, (a) is the example of a display of TV screen, and (b) is the example of a display of a LCD screen. As shown in drawing 18 (a), the picture of \*\*\*\* and a place tag is displayed in the center by TV screen, and the picture of the tag which each player gained to the circumference is displayed on it. As shown in drawing 18 (b), the hand of each player is displayed on a LCD screen.

[0074] Drawing 19 and 20 are flow charts which show the procedure of a flower card game. Introduction and CPU50 clear a score (S151). Next, CPU50 shuffles a tag (S152). A player determines the turn of turning over a tag (S153). CPU50 sends the information on a hand to the control unit 22 of each player, and displays a hand on each LCD screen (S154). Next, CPU50 displays a place tag on TV screen (S155).

[0075] CPU50 performs YES) and the following processings in (S156, while either of a hand, \*\*\*\*, and a place tag remains. According to the turn decided by the above S153, each player chooses the tag which operates a control unit 22 and is taken out to a place out of its hand (S157). CPU50 deletes the selected tag from the LCD screen of the player (S158). When it investigates whether CPU50 has the tag which the player took out to the place, and a tag of the same kind in a place (S159) and a tag of the same kind is in a place, it is confirmed whether there are YES) and its two or more tags of the same kind in (S159 (S160).

[0076] It chooses which tag in a certain case, is taken by a tag of the same kind operating YES) by (S160, and a player operating two or more control units 22 (S161). CPU50 is determined as a tag with which a player takes the selected tag. On the other hand, when there is only one tag of the same kind, let CPU50 be the tag with which a player takes NO) and its tag in (S160).

[0077] Next, CPU50 deletes the tag which the player took, and the tag which the player took out to the place from the viewing area of the place on TV screen (S162), and displays it on the viewing area of the tag acquired on TV screen (S163).

[0078] CPU50 adds the tag which NO) and the player took out with (S159 to a place tag,

when one sheet does not have the tag which the player took out to the place, and a tag of the same kind in a place, either (S165).

[0079] Then, a player operates a control unit 22 and takes out the tag of the top of \*\*\*\* (S166). When CPU50 has the tag which collated and (S167) took out the tag which the player took out from \*\*\*\*, and the tag of a place, and a tag of the same kind in a place, YES) and its tag of the same kind confirm in (S167 whether to be two or more sheets (S168).

[0080] Two or more tags of the same kind choose which tag in a certain case, YES) is operated by (S168, and a player operates a control unit 22, and is taken (S170). Let the tag be the tag with which NO) takes when there are only a taken-out tag and one tag of the same kind, and a player takes CPU50 in (S168. If the tag which a player takes is decided, CPU50 will delete the tag which a player takes from the viewing area of the place on TV screen (S171), and will display the tag taken out from \*\*\*\*, and the tag taken from the place on the viewing area of the tag gained on TV screen (S172).

[0081] On the other hand, in S167, when there are not a tag taken out from \*\*\*\* and a tag of the same kind in a place, the tag taken out from NO) and \*\*\*\* in (S167 is added to a place tag, and it displays on TV screen (S173).

[0082] CPU50 will calculate a yak (score) based on the tag which each player acquired, if turn is turned to each player (S174) and all of hands, \*\*\*\*, and place tags are lost according to the fixed turn (it is NO at S156) (S175). CPU50 displays the score which each player on TV screen gained (S176).

[0083] When the instructions which continue a game are inputted, CPU50 returns to YES) and S152 in (S177, starts the following game, and when that is not right, it ends NO) and a game in (S177.

[0084] Drawing 21 is drawing showing an example of the screen displayed during execution of a military-man shogi game. (a) is the example of a display of TV screen, and (b) is the example of a display of a LCD screen. In a military-man shogi game, as shown in drawing 21 (a), the picture of the whole board is displayed on TV screen, and as shown in drawing 21 (b), some pictures of the board are displayed on the LCD screen of each player. It is made to scroll by operating the cross lever 32, and the part displayed on a LCD screen can be chosen. All pieces are displayed on TV screen by the back sense. Its piece is displayed on public by the LCD screen, and a partner's piece is displayed on the back sense.

[0085] Drawing 22 and 23 are flow charts which show the procedure of a military-man shogi game. Introduction and CPU50 display the picture of the board on TV screen (S181). Two persons' player pitched against each other inputs the piece which operates a control unit 22, respectively and is arranged on the board, and its position (S182). According to the input of a player, CPU displays the picture of a piece on TV screen (S183). If it finishes arranging a piece (it is YES at S184), a player will fix initiative and a defensive hand (S185).

[0086] The player (henceforth "aggressor forces") around which the turn which moves a piece has turned operates a control unit 22, chooses the piece which moves out of the piece arranged on the board, and directs the movement place (S186). CPU50 will judge the victory or defeat of both piece, if the piece of the other party exists in the movement place of the piece of aggressor forces (it is YES at S187) (S188). the case where the victory or defeat of a piece are a draw -- (-- S190 -- YES) and CPU50 -- the piece of draw

beam both from the board of TV screen -- deleting (S191) -- simultaneous -- the draw beam from both LCD screen -- a piece is deleted, respectively (S192)

[0087] When the piece of the other party wins, CPU50 deletes in (S193 the piece in which aggressor forces lost from on the board of YES) and TV screen (S194), and deletes simultaneously the piece in which it lost from the LCD screen of aggressor forces (S195).

[0088] When the piece of aggressor forces wins, CPU50 deletes in (S193 the piece in which the other party lost from on the board of NO) and TV screen (S196), and deletes simultaneously the piece in which it lost from the LCD screen of the other party (S197). And CPU50 moves to the position where the piece of aggressor forces was directed on the board (S198), and moves a piece in the LCD screen of aggressor forces similarly (S199). On the other hand, CPU50 moves a piece to NO) and the position directed on the board of TV screen as it was in (S187, when the piece of the other party does not exist in a movement place in S187 (S198), and it moves a piece in a LCD screen similarly (S199).

[0089] In (S200, the right with which move NO) to the following player when the conclusion of a game does not stick, and CPU50 moves a piece to it is moved (S201), and processing of the above S186-S199 is repeated. In (S200, when the conclusion of a game sticks, all the pieces on the board of TV screen are displayed on YES), CPU50 is displayed on public (S202), a winner is displayed (S203), and a game is ended.

[0090] Drawing 24 is drawing showing an example of the screen displayed during execution of a horse race game. Like above-mentioned drawing 8, (a) is the example of a display of TV screen, and (b) is the example of a display of a LCD screen. As shown in drawing 24 (a), the odds by which each player was calculated based on the instructions which purchase the "betting ticket" inputted from the control unit 22 are displayed on TV screen. As shown in drawing 24 (b), the information on the "betting ticket" which each purchased is displayed on the LCD screen of each player.

[0091] Drawing 25 is a flow chart which shows the procedure of a horse race game. Introduction and CPU50 clear \*\*\*\* of each player (S211). Next, CPU50 displays the information on the horse which enters in TV screen (S212). Furthermore, CPU50 calculates odds (S213) and displays the calculated odds on TV screen (S214). The instructions which show that each player purchases a "betting ticket" from each control unit 22 are inputted (S215). CPU50 displays the "betting ticket" which each purchased on the LCD screen of each player (S216).

[0092] CPU50 repeats processing of the above S213-S216 until it continues till race entry time (it is NO at S217). If race entry time comes (it is YES at S217), CPU50 will display a race entry screen on TV screen (S218). CPU50 will display a race result and a dividend on TV screen, if a horse is made to run on a screen (S219) and all horses make a goal (it is YES at S220) (S221). CPU50 calculates the score of each player (S222), and displays each score on TV screen (S223).

[0093] CPU50 returns to YES) and S212 in (S224, when it is inputted, the instructions which continue a race, or, it performs the following race, when that is not right, it displays the ranking of each player on NO) and TV screen in (S224 (S225), and it ends a game.

[0094] The information which should display the information it is displayed by this example that explained above in common with the participant in a game on TV screen, and should be limited and displayed on each participant is displayed on each LCD screen.

Therefore, it becomes possible to perform a game in which participants, such as an above-mentioned mah-jongg game, and a cards game or a flower card game, keep secret and carry forward a tile, a card or a tag etc. which oneself holds to other participants.

[0095] Moreover, although those who judge the victory or defeat of a game other than a player, or calculate odds about an above-mentioned military-man shogi game, an above-mentioned horse race game, etc. are required, it becomes possible to be able to make a game machine bear the role, and to become possible to advance a game impartially, and to perform only two games.

[0096] In addition, although the composition which connects the connection 24 of the carried type operating set 20 for game machines concerning this invention to the main part 10 of a game machine was shown, a main part 10 and a connection 24 may consist of this examples in one. Moreover, you may be the composition that the number of the control units 22 which connect with a main part 10 according to the kind of game which constitutes a connection 24 and a signal line 26 free [ attachment and detachment ] if needed, and it not only enables attachment and detachment of a main part 10 and a connection 24, but performs them can be changed.

[0097] Furthermore, although CPU50 prepared in the main part 10 was made to perform control of a control unit 22, the easy controlling mechanism for the interior of a control unit 22 is formed, and you may make it a main part 10 and a control unit 22 share control processing.

[0098] Correspondence with the composition of each example and the composition of a claim which were mentioned above is described. The game special-purpose machinery 10,210 or a personal computer 310 is equivalent to a "game machine" given in a patent claim, and CPU50 corresponds to \*\* "control means." \*\* "means of communications" is constituted by the connection 24 and the signal line 26. A control unit 22 corresponds to \*\* "a control unit." \*\* "a display means" is constituted by LCD30. \*\* "an input means" is constituted by the cross lever 32 and the input buttons 34 and 36. \*\* "connecting means" is constituted by the connection 24,224,324.

[0099]

[Effect of the Invention] Operator command can be inputted from an input means, looking at the information displayed on the display means with which the control unit was equipped according to invention according to claim 1, as explained above.

[0100] According to invention according to claim 2, it can communicate with the control means prepared in the game machine by a signal line and connecting means.

[0101] According to invention according to claim 3, communication with a control unit and the control means prepared in the game machine can be performed through a bus.

[0102] According to composition according to claim 4, communication with a control unit and the control means prepared in the game machine can be performed through a bus.

[0103] According to invention according to claim 5, the attachment and detachment of an operating set to a game machine can be enabled.

[0104] According to invention according to claim 6, two or more control units are connectable with a game machine.

[0105] Offering the carried type operating set for game machines which can transmit and receive a game machine and a lot of data possible [ keeping the information about an operator secret from the others, and performing a game by this, ] is realized.